ETTEL, Viktor

CHEMISTRY

c/1964 DECEASED

1964

RAKOVSKIY, E.; ETTER, V., tekhnik

Universal fastening of molds to vibrating platforms. Avt.dor. 28 no.3:15 Mr '65. (MIRA 18:5)

1. Nachal'nik tsentral'noy laboratorii Upravleniya stroitel'stva No.9 Glavnogo upravleniya po stroitel'stvu avtomobil'nykh dorog soyuznogo znacheniya (for Rakovskiy). 2. Tsentral'naya laboratoriya Upravleniya stroitel'stva No.9 Glavnogo upravleniya po stroitel'stvu avtomobil'nykh dorog soyuznogo znacheniya (for Etter).

ETTINGER, Alfred; CHYLEWSKI, Wlodzimierz

Etiology, pathogenesis, clinical aspects, and prevention of occupational skin disease in dye workers. Przegl. derm. 4 no.1: 31-37 Ja-F '54.

1. Z Kliniki Dermatologicznej Akademii Medycznej w Lodzi. Dyrektor: prof. dr S.Kapuscinski.

(DYES, injurious effects,
*skin dis. in workers)
(OCCUPATIONAL DISEASES,
*skin dis. in dye workers)
(SKIN, diseases,
*occup. dye lesions in workers)

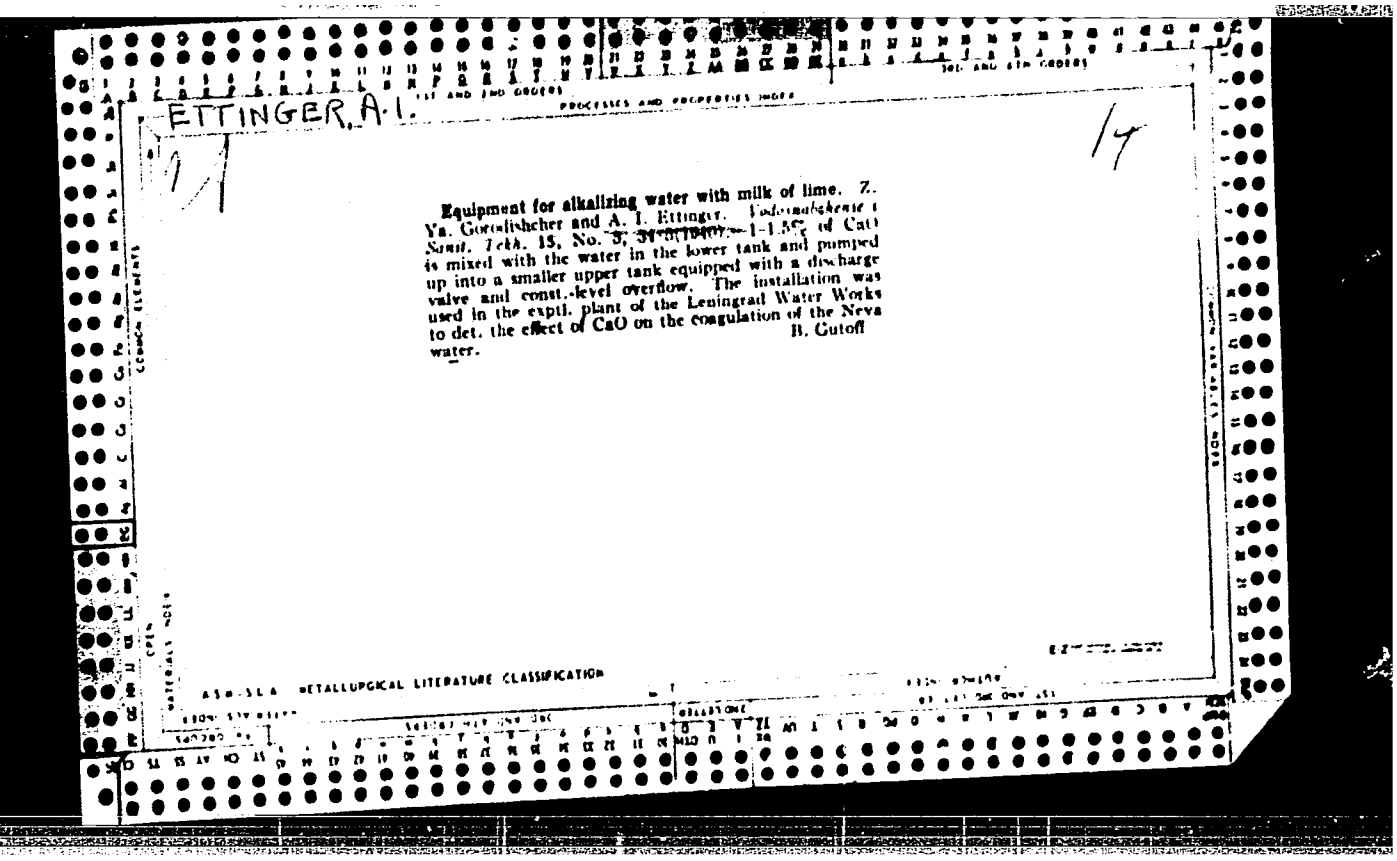
ETTINGER, A.I.

Ca

14

Determination of aluminum in filtered Neva River water according to the method of Hatfield. A. I. Ettinger. *Vodosnabzhenie Sanit. Tekh.* 1939, No. 2, 68-71; *Khim. Referat. Zhur.* 2, No. 5, 66 (1939); cf. C. A. 30, 2216.—Hatfield's method permits rapid detn. of the dissolved Al and the highly dispersed $Al(OH)_3$. Since $Al(OH)_3$ cannot be detd. when in the form of a gel, the highly dispersed samples of $Al(OH)_3$ must be kept on ice to prevent their transformation into the gel state. W. R. H.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



ETTINGER, A. I.

1/1

1/4

Equipment for alkalizing water with milk of lime. Z. Ya. Gorodishcher and A. I. Ettinger. *Vodosnabzhenie i Sanit. Tekh.* 15, No. 3, 31-3(1940).—1-1.5% of CaO is mixed with the water in the lower tank and pumped up into a smaller upper tank equipped with a discharge valve and const.-level overflow. The installation was used in the exptl. plant of the Leningrad Water Works to det. the effect of CaO on the coagulation of the Neva water.

B. Gutoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

ETTINGER, A.[1.]

BULYGIN, A., GORODISHCHEV, Z., and ETTINGER, A. "Contamination of the sand of a high-speed nonagitating filter, and chemical methods of purifying it", Materialy po kommunal. khoz-vu, 1949, Collection 2, p. 30-36.

SO: U-4393, 19 August 53, (Letopis 'Zhurnal 'nykh Statey', No. 22, 1949).

ETTINGER, A.I.

1. PONOMAREVA, V. V.; ETTINGER, A. I.
2. USSR 600
4. Neva River - Water - Composition
7. Nature of organic substances dissolved in Neva waters, Dokl. AN SSSR, 88, No. 1 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

ETTINGER, A.I.

Characterization of the organic substances dissolved in Neva water. V. V. Ponomarova and A. I. Ettinger. *J. Appl. Chem. U.S.S.R.* 27, 727-32(1954)(Engl. translation).—See *C.A.* 48, 12133e. U. M. R.

(1)

ETTINGER, A.I.

Characterization of the organic substances dissolved in Neva water. V. V. Ponomareva and A. I. Ettinger. *Zhur. Prikład. Khim.* 27, 774-81(1954); cf. C.A. 47, 6[illegible]. —Dark, easily pptd. substances of humic-ulmic acid type comprise but 5-6% of the org. matter in the Neva. Apocrenic acid types also reach 5-6%. The rest of the org. matter consists of the lightly oxidized fractions of crenic acids.
G. M. Kosolapoff

A-1-

AID P - 3656

Subject : USSR/Medicine

Card 1/1 Pub. 37 - 2/19

Authors : Bolotnyy, V. V., Ettinger, A. I., Kupperberg, L. S., Scientific Workers

Title : Disinfection of drinking water by hydrogen peroxide

Periodical : Gig. i. san., 11, 7-9, N 1955

Abstract : Describes investigation and experiments on the use of a filter for disinfecting Neva water by hydrogen peroxide. The results of the experiments are presented in a table.

Institution : Leningrad Scientific Research Institute, Academy of Municipal Services im. K. D. Pamfilov

Submitted : S 9, 1954

PROCESSES AND PROPERTIES INDEX

13c

A-1

Simultaneous solubility of aluminium, sodium, potassium, and ferric nitrates in aqueous nitric acid. I. A. I. KABLAVSKI and I. L. BYTINSKI [with E. A. KUNOVA] (J. Gen. Chem. Russ., 1937, 7, 1948—1959).—Compound formation is not observed in the system $Al(NO_3)_3$–$NaNO_3$–KNO_3–H_2O at 0—60°. The solid phases are $Al(NO_3)_3,9H_2O$, KNO_3, and $NaNO_3$. R. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

3C A-1

Simultaneous solubility of aluminium, sodium, potassium, and ferric nitrate in aqueous nitric acid. II. A. I. Saslavski, I. L. Ettinger, and E. A. Smirnova (J. Gen. Chem. Russ., 1937, 7, 2410—2416).—Solubility data are recorded for the systems $NaNO_3$ or $Al(NO_3)_3$–HNO_3–H_2O, and $NaNO_3$–$Al(NO_3)_3$–HNO_3–H_2O, at 0° and 20°. The solid phases are $Al(NO_3)_3$,6, 8, and $9H_2O$, and $NaNO_3$. Double salts are not formed. R. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Chem A

Sorption of nitrogen by hard coal. I. L. Ettinger. *Izvest. Akad. Nauk S.S.S.R., Otdel. Tekh. Nauk* 1949, 1719–22; cf. *C.A.* 45, 8738a.—N was freed from O by passing over incandescent Cu shavings, and through a soln. of sodium dithionite, and from H_2S by a soln. of Na plumbite, and dried over $CaCl_2$ and soda lime. Kusnetsk coal was subjected to evacuation for 1.5 months under a pressure of about 10^{-4} mm. at 60°. For each of the samples of coal, representing different stages of metamorphism, isotherms were obtained, at 25° and at 40°. The point of sorption equil. was completely reversible; this reversibility seems to confirm the existence of phys. van der Waal's sorption in contrast to chemosorption. However, the N sorption isotherms were essentially different from the sorption isotherms of CH_4 reported previously. All but 1 of the N isotherms were straight lines; thus sorption of N follows Henry's law. The sorption increases with the degree of carbonization of the coal; i.e., as the degree of metamorphism of the coal increases, the sorbing surface increases.
Gladys S. Macy

1951

ETTINGER, I. L.

USSR/Geology Apr 49
Coal
Gas

"Gases of Coal Deposits," G. D. Lidin, I. L. Ettinger, 10 pp

"Priroda" No 4

Discusses (1) nature of gases and their occurrence in carboniferous deposits, (2) gas formation in mine shafts, (3) prevention of gas in mines, (4) problem of forecasting gas abundance in mines, (5) controlling gas formation in mines, and (6) utilization of gases. Discusses historical background

57/49T46

USSR/Geology (Contd) Apr 49

of subject. Illustrates how the dangerous gas, methane, can be converted into a useful mineral product by proper measures.

57/49T46

USSR/Mines
Methane
Coal

Jul 49

"Sorption of Methane by Kuznetsk Basin Coals," I. L. Ettinger, Mining Inst, Acad Sci USSR, 5 pp

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 7

Found values for methane sorption by Kuznetsk basin coals in pressure interval 0 - 800 mm/mercury and temperature range 0 - 40°C. Compared data on Kuznetsk coal with data from other sources on Donets coals, English coals, Belgian coals, and Belgian anthracite. All have roughly

52/49T90

USSR/Mines (Contd) Jul 49

the same sorption properties. Submitted by Acad A. A. Skochinskiy, 5 Apr 49.

52/49T90

ETTINGER, I. L.

36113 Vydayushchiysya deyatel' russkoy nauki akademik A. A. SKochinskiy. (K 75-letiyu so dnya rozhdeniya). Priroda, 1949, No. 11, S. 70-71, S portr.

SO: Letopis' Zhrunal' nykh Statey, No. 49, 1949

ETTINGER, I. L.

PA 163T68

USSR/Mining - Coal May 50
Acad Sci USSR

"Absorption of CO_2 by Mineral Coals," I. L. Ettinger, Mining Inst, Acad Sci USSR

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 5, pp 721-728

Investigates absorption of CO_2 per unit mass of various coals (anthracite, lignite, graphite, fossil, etc.) as function of pressure (0-900 mm/Hg) for various temperatures (20, 30, 40° C) and various sources (Sub-Moscow, Karaganda, Kureyka, Ceylon, etc). Finally, makes scattergram of all data for CO_2-absorption vs volatility V (0-45%). Long,

163T68

USSR/Mining - Coal (Contd) May 50

rectangular-hyperbolic "sequence" is noted for anthracite coals, while lignite and long-flame coals are scattered in a small localized cluster. Submitted 11 Jan 50 by Acad A. A. Skochinskiy.

163T68

168T59

ETTINGER, I. L.

USSR/Mining - Coal, Testing Aug 50

"Influence of the Moisture Content on Sorption of Methane by Coals," I. L. Ettinger, G. D. Lidin, Inst of Mining, Acad Sci USSR

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 8, pp 1198-1203

Studied of methane by dry and moist coals on three samples. Demonstrated: permeability to methane decreases with increase in moisture content; decrease is determined mainly by sorption water. Natural moisture content must be considered when calculating methane-bearing ability of coal seams. Submitted by Acad A. A. Skochinskiy.

168T59

ETTINGER, I. L.

244T60

USSR/Engineering - Coal Mining Mar 52

"Basic Factors Determining the Gas-Bearing Capacity of Coals at Atmospheric Pressure," I. L. Ettinger

"Iz Ak Nauk USSR, Otdel Tekh Nauk" No 3, pp 423-432

Discusses sorption capacity of coals in respect to gases, concluding that such capacity is basically determined by magnitude of inner surface, i.e., number of ultra-pores accessible for molecules of gases Development extent of inner surface is result of metamorphic processes in coal bed during geological periods. Sorption capacity of coals increases in

244T60

transition from low-metamorphosed gas coals to anthracites. Submitted by Acad A. A. Skochinskiy 20 Aug 51

244T60

ETTINGER, I.L.

1. YETTINGER, I. L.

2. USSR (600)

4. Coal - Analysis

7. Index of the tendency of coal to eject suddenly coal and gas.
Ugol' 27 no. 10, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

ETTINGER, I. L.

USSR/Mining - Coal, Methane 21 Jan 52

"Method for Approximate Calculation of the Sorptive Capacity of Coals in Respect to Methane at Atmospheric Pressure," I. L. Ettinger, Inst of Mining, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXXII, No 3, pp 427-430

Suggest empirical eq for calg methane content of coal at various temps, if values for methane sorption of this coal are known at least for 2 temps. Isobars of methane sorption were plotted for coals of Donets, Karaganda and Kuznetsk basins, and suggested eq is expression describing these isobars. Submitted by Acad A. A. Skochinskiy.

211T83

ETTINGER, I.L.; PROTOD'YAKONOV, M.M.

Change of the hardness of coal by saturation with methane. Doklady Akad. Nauk S.S.S.R. 84, 1235-7 '52. (MLRA 5:7)
(CA 47 no.21:11694 '53)

1. ETTINGER, I.L.; SHTERENBERG, L.YE.; YABLOKOV, V.S.

2. U3SR (600)

4. Coal

7. The relation between the structure of coal seams and the rate of methane yield by coal, Izv. AN SSSR. Ser.geol. no. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

NOVIKOV, K.P.; ETTINGER, I.L.

Conference on prevention of spontaneous coal and gas combustion in coal mines. Izv.AN SSSR. Otd.tekh.nauk no.7:1074-1076 Jl '53. (MLRA 6:8)
(Combustion, Spontaneous)

1. ETTINGER, I. L.;SHTERENBERG, L. Ye.; YABLOKOV, V. S.

2. USSR (600)

4. Methacrylic Acid

7. Effect of the intensity of stirring on the rate of heterophase polymerization of methylmethacrylate in solution, Zhur. prikl. khim. 26 No. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953. Uncl.

ETTINGER, I.L., kandidat khimicheskikh nauk; SHTERENBERG, L.Ye., mladshiy nauchnyy sotrudnik; YABLOKOV, V.S., kandidat geologo-mineralogicheskikh nauk.

Connection between the structure of coal seams and sudden ejection phenomena. Ugol' vol.28 no.11:28-31 N '53. (MLRA 6:11)

1. Institut geologicheskikh nauk Akademii nauk SSSR (for Shterenberg and Yablokov). 2. Institut gornogo dela Akademii nauk SSSR (for Ettinger). (Coal)

ETTINGER, I.L.

USSR.

Adsorption of methane and methyl alcohol vapor by coals. V. V. Khodot, I. L. Ettinger, and M. P. Yanovskaya. *Doklady Akad. Nauk S.S.S.R.* 88, 309–11(1953).—Adsorption capacity of coals for CH_4 and MeOH is detd. by the accessibility of micropores and not by the dimensions of the crystallites. Hard coals and anthracites (< 35–40% volatile constituents) may be regarded as rigid adsorbents. Soft coals (> 40% volatile constituents) exhibit an anomalously high adsorption ability and cannot be regarded as rigid adsorbents. Expti. techniques are those previously described (I. L. Ettinger, *C.A.* 47, 6631h; Khodot and Yanovskaya, *C.A.* 46, 11620f). I. P.

ETTINGER, I.L.

USSR

4991. DETERMINATION OF RATE OF GAS EMISSION AS A METHOD OF DISCOVERING ERUPTION DANGER ZONES IN COAL SEAMS. Lidin, G.S., Ettinger, I.L., Zhupakhina, E.S. and Sazonov, L.Ya. (Ugol (Coal), Dec. 1954, 21-24). The method of taking coal samples, removing the existing gas, saturating them with methane and measuring the initial rate of gas emission was applied for three months to a seam in central Donbass. The fact that the danger of eruptions increases with this rate of gas emission was confirmed by some successful predictions. (L).

ETTINGER, I.L.

ETTINGER, I.L.; ZHUPAKHINA, Ye.S.

Initial gas formation rate in coal seams indicating gas and coal outburst hazards. Trudy Inst.gor.dela 1:165-172 '54. (MLRA 7:12)

(Coal mines and mining) (Mine gases)

ETTINGER, I., kandidat khimicheskikh nauk.

An outstanding scientist. Mast.ugl. 3 no.7:24 Jl '54. (MLRA 7:7)
(A.A.Skochinskii)

Ettinger, I.L.

USSR/Chemistry - Coal

Card 1/1 Publ. 22 - 45/63

Authors : Ettinger, I. L.; Lamba, E. G.; and Adamov, V. G.

Title : The role of gas as a reducer of coal solidity

Periodical : Dok. AN SSSR 99/6, 1057-1060, Dec 21, 1954

Abstract : Experiments were conducted to determine the causes for coal softening (loss in solidity) under the effect of gas pressures and to explain the connection between solidity reduction of coal and their geological disturbance. Results showed that the softening of coal is connected with their gas absorption and that the change in ca6l solidity in the mass during cut-off ventilation is connected with the increase in partial gas pressure and reduction in intensity of gas desorption from the coal. Eight USSR references (1936-1954). Tables; drawing.

Institution : Academy of Sciences USSR, Mining Institute

Presented by : Academician A. A. Skochinskiy, July 7, 1954

VESELOVSKIY, V.S.; ETTINGER, I.L., kandidat khimicheskikh nauk, redaktor; KATRENKO, D.A., redaktor; SIMKINA, Ye.N., tekhnicheskiy redaktor.

[Chemical nature of mineral fuels] Khimicheskaia priroda goriuchikh iskopaemykh. Moskva, Izd-vo Akademii nauk SSSR, 1955. 423 p.
(Fuel--Analysis) (MLRA 8:12)
(Mineralogical chemistry)

ETTINGER, I.L.

USSR/Fuels -- Coal FD-2623

Card 1/1 : Pub. 41-9/21

Author : Lamba, Ye. L. and Ettinger, I. L., Moscow

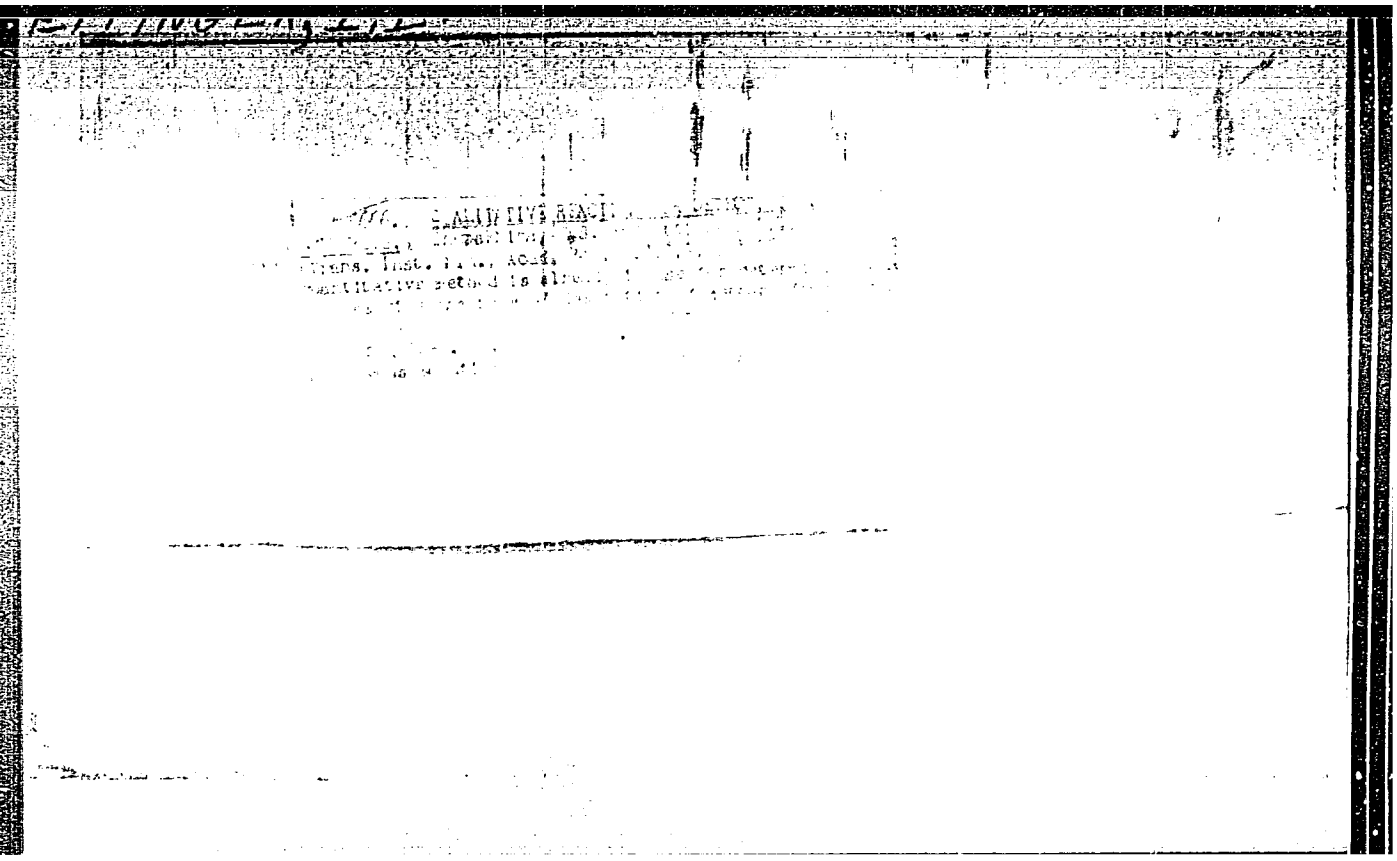
Title : Measurement of the sorptional properties of coal during its oxidation

Periodical : Izv. AN SSSR, Otd. Tekh. Nauk 4, 110-119, Apr 1955

Abstract : Studies the reasons for the changes in gas separation indices. Takes into account the fact that in newly developed coal basins the specimens do not undergo laboratory investigation immediately upon uncovery. Examines the rate of desorption of methane during coal storage. Describes method of determining initial degree of gas separation. Proposes reasons for the decrease in the gas separation index of coal during storage. Lists properties of coal taken from various mines and regions. Graphs, tables. Ten references, 9 USSR.

Institution :

Submitted : November 22, 1954

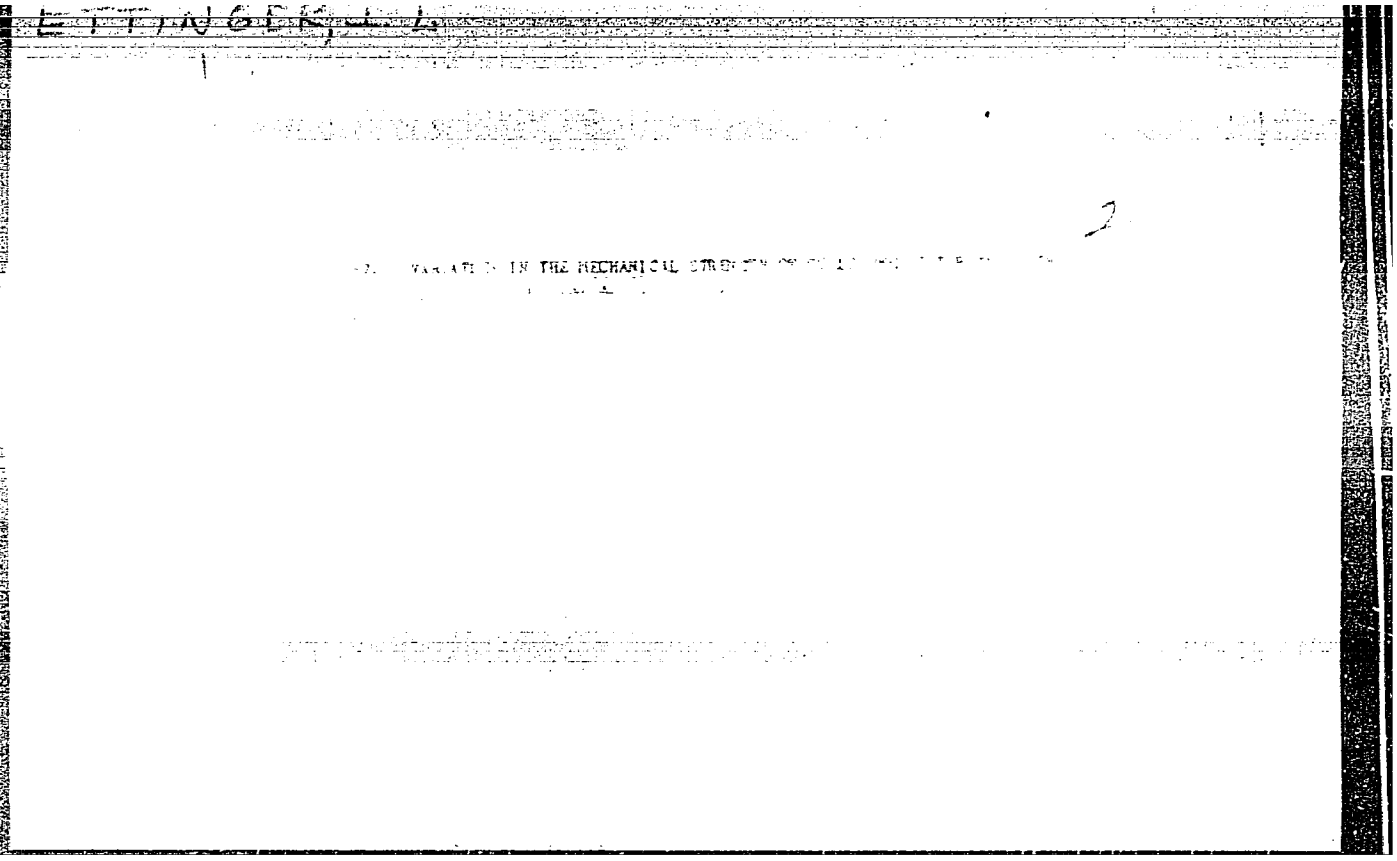


ETTINGER, I. L.

5221* (Russian.) Adsorption of Methane by Carbon Black and Coal Above and Below Critical Temperature. Adsorbtsiia metana sazhei i uglem vyshe i nizhe kriticheskoi temperatury. A. V. Kiselev, E. Z. Saburov, [illegible] Iangaskaia. Doklady Akademii [illegible] 1950, p. 129-132.

Investigation of adsorptive abilities with respect to [illegible] operation.

[illegible] gornogo dela akad. nauk SSSR i Moskovsk. [illegible] universitet im. M. V. Lomonosova [illegible]



Gas Medium in Coal-Breaking Destruction Processes. [redacted] 20-2-40/67

the same time.The authors investigated the solidity of more than 1oo samples and of 5 different types of derangement of the structure in the air, CO_2 and OH_4 under pressure of 4o atm.over pressure.The physical adsorption for CO_2 and CH_4 is characterizing. The quantity of dust developing on the occasion of crushing the coal was measured in all of the three gases.From ill.1 it is evident that solid sorts of coal have less micro-craks and therefore their solidity is not injured by gases. Weak and easily crushable coals, on the other hand, are weakened even more by the action of CH_4 and CO_2. Ill.2 shows(in semilogarithmic coordinates) the average distance between micro-cracks and the dust development in CO_2. On the occasion of a mechanical influence on coal in gas mediy also the micro-cracks, with the exception of influences on large surfaces, have an effect.If such preliminary derangement is lacking, the gas alone is not able to produce new cleavage planes between coal and gas and thus to promote the destruction of the coal along these planes. Methane has a similar, though weaker effect than CO_2.In the seam the coal is saturated with gas. Here the gas has no weakening effect but prevents the hardening of the coal.A very fine methane cover(nearly 1oo% methane) is blown away on the occasion of active ventilation. Although the methane supply from deeper layers intensifies, it stays behind the escaping of gas. The gas pressure in the exterior coal layers decreases, the decomposing gas-effect int the micro-craks dimini-

Card 2/4

Ettinger, I.L.

AUTHOR: Ettinger, I.L., 20-5-28/54

TITLE: Variation in the Sorption Properties of Genetic Series of Fossile Coals (Izmeneniye sorbtsionnykh svoystv v geneticheskikh ryadakh iskopayemykh ugley)

PERIODICAL: Doklady Akad. nauk SSSR, 1957, Vol. 115, Nr 5, pp. 953-956,(USSR)

ABSTRACT: Most of the coal deposits are saturated with gas. The role of the sorption energy, which causes the gas concentration on the surface of coals is important for the creation of a balance between coal and gas. In the course of the conversion process of coal substances which was different in the various coal deposits, the sorption activity of fossile coals also changes. The change affects the binding character of coal and gas and the gas-saturation of coal layers, i.e. the potential factors which decide the emittance of gas in mines. Therefore it is very important to define the mathematical interrelationship, the change of sorption properties with the origin of pit coals and their metamorphism. The author studied about 250 samples of the major coal deposits of the U.S.S.R. He analyzed them and found a sorption capacity for methane at 300 of temperature and 1 atm of pressure. The connection between this capacity and yield of volatile substances is shown in figure 1 (for CH_4) and figure 2 (for CO_2). The genetic processes in coals lead into different directions and overlap one another. Their sorption properties change in a simular way. This all brings about

Card 1/3.

Variation in the Sorption Properties of Genetic Series of Fossile Coals. 20-5-28/54

with the yield of volatile substance of 35-40% cannot be explained by the dispersion of the results of the experiments. It is a fact that in the above mentioned range field the increase of the sorption property takes place independently of the main direction; this confirms the fact that the series of molecular association in the Moscow- and Central Asian brown coals are parallel to the series of pit coals, thanks to the overlapping by the factor of subterranean oxidation. If the adsorption of brown coal (bituminous coal) and long-flame-coal is of importance it is necessary to define also their natural activation through a change in the chemical composition. The existence of 2 directions in the diagram "yield of volatile substances - sorption capacity", however, shows no significant dispersion in the results of experiments. They can only be explained by the fact that, apart from the natural factors which activate coals, there exist also such as have a contrary effect. There are 2 figures and 7 Slavic referances.

PRESENTED BY: Skochinskiy, A. A., Academician, March 19, 1957
SUBMITTED: March, 19, 1957
AVAILABLE: Library of Congress

Card 3/3

SKOCHINSKIY, A.A., akad.; KHODOT, V.V., kand. tekhn.nauk,; GMOSHINSKIY, V.G., st. nauchnyy sotrudnik, kand. tekhn.nauk,; LIPAYEV, Yu. A., ml. nauchnyy sotrudnik,; PRIMYSLER, Yu.S., ml. nauqhnyy sotrudnik,; ETTINGER, I.L., st. nauchnyy sotrudnik, kand. khim.nauk,; YANOVSKAYA, M.F., st. nauchnyy sotrudnik, kand. tekhn. nauk,; NIKOLAYEV, V.F., red. izd-va,; PROZOROVSKAYA, V.L., tekhn. red.; IL'INSKAYA, G.M., tekhn. red.

[Methane in coal beds] Metan v ugol'nykh plastakh. Moskva, Ugletekhizdat, 1958. 255 p. (MIRA 11:12)

1. Rukovoditel' Laboratorii vnezapnykh vybrosov Instituta gornogo dela AN SSSR (for Khodot). 2. Laboratoriya prognoza i upravleniya gazovydeleniyem Instituta gornogo dela AN (for Ettinger).
(Methane)
(Coal)

ETTINGER, I. L.

"The Sorption Properties and Structure of Fossil Coals."

paper to be submitted for the Symposium on the Nature of Coal, Dhanbad, India, 7-9 Feb 59.

(Inst. of Mining, Acad. Sci. USSR, Moscow.)

5(2) SOV/32-25-4-29/71

AUTHORS: Ettinger, I. L., Zhupakhina, Ye. S.

TITLE: New Methods of Determining the True and Apparent Specific Weights of Porous Bodies (Novyye metody opredeleniya istinnogo i kazhushchegosya udel'nykh vesov poristykh tel)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 4, pp 453-455 (USSR)

ABSTRACT: For determining the apparent specific weight, i.e. the weight of 1 cm^3 of a porous body including the pores, conditions must be established which absolutely prevent the pycnometrical medium from entering the pores. In the present case, a method of this kind was developed for coals and bitumina. The pycnometrical liquid is water with 0.05-0.1% of the wetting agent OP-7, which reduces the surface tension at the water-air boundary from 73 to 33 erg/cm^2. OP-7 is a mixture of polyethylene glycol monoalkylphenyl esters. The results of determination obtained by the described method, and with helium are given for 12 samples of different coal types (with a content of 1.7-44.5% volatile component) (Table 1). The method is applied in the Vsesoyuznyy nauchno-issledovatel'skiy dorozhnyy

Card 1/2

New Methods of Determining the True and Apparent Specific Weights of Porous Bodies

institut (All-Union Scientific Research Institute of Roads) by A. S. Kolbanovska and L. I. Yefimova for bituminous materials with the difference that the sample is not heated on the water bath but is left in the vacuum exsiccator in the pycnometrical liquid at room temperature. For determining the apparent specific weight, the method of silanization was tested on coals (Ref 3). It is found that an excessive silanization reduces the accuracy of determination; for soft coal types the result is the higher, the longer the silane condensation is carried on. The latter is assumed to be due to a possible compression of the soft, loose coal structure. A comparison between the results of measurement by the described method and geometrical measurements (Table 2) shows that the maximum difference is 1%. There are 2 tables and 3 Soviet references.

ASSOCIATION: Institut gornogo dela Akademii nauk SSSR (Institute of Mining of the Academy of Sciences USSR)

MENKOVSKIY, Mikhail Abramovich, prof.; ETTINGER, I.L., otv.red.; GARBER, T.N., red.izd-va; BERESLAVSKAYA, L.Sh., tekhn.red.; LOMILINA, L.N., tekhn.red.

[Chemistry in coal mining] Khimiia v ugol'noi promyshlennosti. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1960. 151 p. (MIRA 13:5)
(Coal mines and mining) (Chemistry, Technical)

ETTINGER, Iosif L'vovich; OKHRIMENKO, V.A., otv. red.; MINSKER, L.I., tekhn. red.; SHKLYAR, S.Ya., tekhn. red.

[Properties of coals affecting mine safety] Svoistva uglei, vliiaiushchie na bezopasnost' truda v shakhtakh. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1961. 95 p. (MIRA 14:8)

(Coal mines and mining--Safety measures)

AGROSKIN, Anatoliy Abramovich, prof.; ETTINGER, I.L., otv. red.; GARBER, T.N., red. izd-va; BOLDYREVA, Z.A., tekhn. red.

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ETTINGER, I.L. (Moskva)

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(Coal geology) (Sorbents)

ETTINGER, I.L.; AFANAS'YEVA, A.I.; YEFIMOVA, I.N.

Effect of contact metamorphism on the sorption properties of Noril'sk coals. Gor. i ekon. vop. razrab. ugol'. i rud. mest. no.1:241-246 '62. (MIRA 16:7)
(Noril'sk region--Coal) (Sorption)

ETTINGER, I.L.

Changes in the structure of extracted coal during its natural activation. Dokl. AN SSSR 142 no.1:196-199 Ja '62. (MIRA 14:12)

1. Institut gornogo dela im. A.A. Skochinskogo AN SSSR. Predstavleno akademikom L.D. Shevyakovym.
(Coal) (Sorption)

ETTINGER, I.L.; MATVIYENKO, N.G.; SHERSHUKOV, V.V.

Increase of the sorption activity of coals of the Noril'sk deposit caused by an ore-bearing intrusion. Dokl.AN SSSR 148 no.4:925-928 F '63. (MIRA 16:4)

1. Institut gornogo dela im. A.A.Skochinskogo. Predstavleno akademikom L.D.Shevyakovym.
(Noril'sk region—Coal geology) (Sorption)

LAMBA, Ye.G. (Moskva); ETTINGER, I.L. (Moskva); ADAMOV, V.G. (Moskva)

Determining the methane content of native coals at pressures up to 50 at. Izv. AN SSSR Met. i gor. delo no.2:188-191 Mr-Ap'64 (MIRA 17:8)

1. Institut gornogo dela imeni A.A. Skochinskogo.

ETTINGER, I.L. (Moskva); SULLA, M.B. (Tula)

Gas content in brown coals and gas liberation in Moscow Basin mines. Izv. AN SSSR. Met. i gor. delo no.5:159-166 S-O '64.

(MIRA 18:1)

1. Institut gornogo dela imeni A.L.Skochinskogo i Tul'skiy gornyy institut.

ETTINGER, I. L.; YEREMIN, I. V.; ZIMAKOV, B. M.; BAKALDINA, A. P.

Sorption properties of various petrographic components of fossil coals. Dokl. AN SSSR 155 no. 2-364-367 Mr '64. (MIRA 17:5)

1. Institut gornogo dela im. A. A. Skochinskogo, Moskovskiy geologorazvedochnyy institut im. S. Ordzhonikidze i Institut geologii i razrabotki goryuchikh iskopayemykh. Predstavleno akademikom N. V. Mel'nikovym.

ETTINGER, I.L.; DMITRIYEV, A.M.; BOGDANOVA, Ye.M.; VOYTOV, G.I.

Some characteristics of the sorption properties of the anthracite of the eastern Donets Basin. Dokl. AN SSSR 156 no. 5:1099-1101 Je '64. (MIRA 17:6)

1. Institut gornogo dela im. A.A.Skochinskogo. Predstavleno akademikom N.V.Mel'nikovym.

ETTINGER, I.L.

Natural equilibrium system "coal - methane" and the methods for its study. Usp. khim. 34 no.7:1185-1198 Jl '65.
(MIRA 18:7)

1. Institut gornogo dela imeni A.A. Skochinskogo.

ETTINGER, I.L.; CHAPLINSKIY, A.; LAMBA, Ye.G.; ADAMOV, V.G.

Comparative sorption capacity of fossil coals as compared to carbon dioxide gas ans methane under pressures ranging up to 40 atm. Dokl. AN SSSR 161 no.1:214-217 Mr '65.

(MIRA 18:3)

1. Submitted July 4, 1964.

LIDIN, G.D.; ETTINGER, I.L.; YEREMIN, I.V.

Gas composition and capacity of coals in the weathering zone of coal deposits. Dokl. AN SSSR 160 no.6:1392-1395 F '65.

(MIRA 18:2)

1. Institut gornogo dela im. A.A. Skochinskogo i Institut geologii i razrabotki goryuchikh iskopayemykh AN SSSR. Submitted July 4, 1964.

ETTI'GER, K.

Radiotelephone on decimetric waves. p. 13

RADIOAMATOR. Warszawa, Poland. Vol. 5, no. 11, Nov. 1955.

Monthly List of East European accession (EAI), LC. Vol. 8, No. 9, September, 1959. Uncl.

ETTINGER, K.

Ultrashort-wave resonance meter. p. 5.

RADIOAMATOR. (Publication for amateur radio operators. Title varies: before 1954, Radio Amator. Monthly.) Warszawa, Poland.
Vol.5, no.12, Dec.1955.

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Uncl.

ETTINGER, K.

ETTINGER, K. Certain possibilities of the reception of the signals below the noise level. p. 15. Vol. 6, no. 1, Jan. 1956 Bleeders. p. 15 RADIOAMATOR. Warszawa Poland

SOURCE: East European Accessions List (EEAL) Vol. 6 No. 4 April 1957

ETTINGER, K.

ETTINGER, K. Plate modulation with a clamp tube. p. 27.

Vol. 6, No. 10, Oct. 1956.
RADIOMATOR
TECHNOLOGY
Warszawa, Poland

So: East European Accession, Vol. 6, No. 2, Feb. 1957

ETTINGER, K.W.; MOSCICKI, W.

Observation of the thermoelectrons by means of Geiger-Müller counters. Acta physica Pol 22 no.1:129-132 Jl '62.

1. 1st Department of Physics, Technical University, Gdansk.

COUNTRY : Rumania H-5
CATEGORY :

ABS. JOUR. : RZKhim., No. 1959, No. [illegible]

AUTHOR : Ettinger, V.; [illegible], S.; [illegible]
INST. : —
TITLE : Disinfectant Action of Residual Chlorine

ORIG. PUB. : Igiena, 1959, 8, No 2, [illegible]

ABSTRACT : Presentation of results of laboratory studies. It is noted that the disinfectant action of Cl_2 is decreased in the presence of oxidizable admixtures.
From authors' summary.

CARD:

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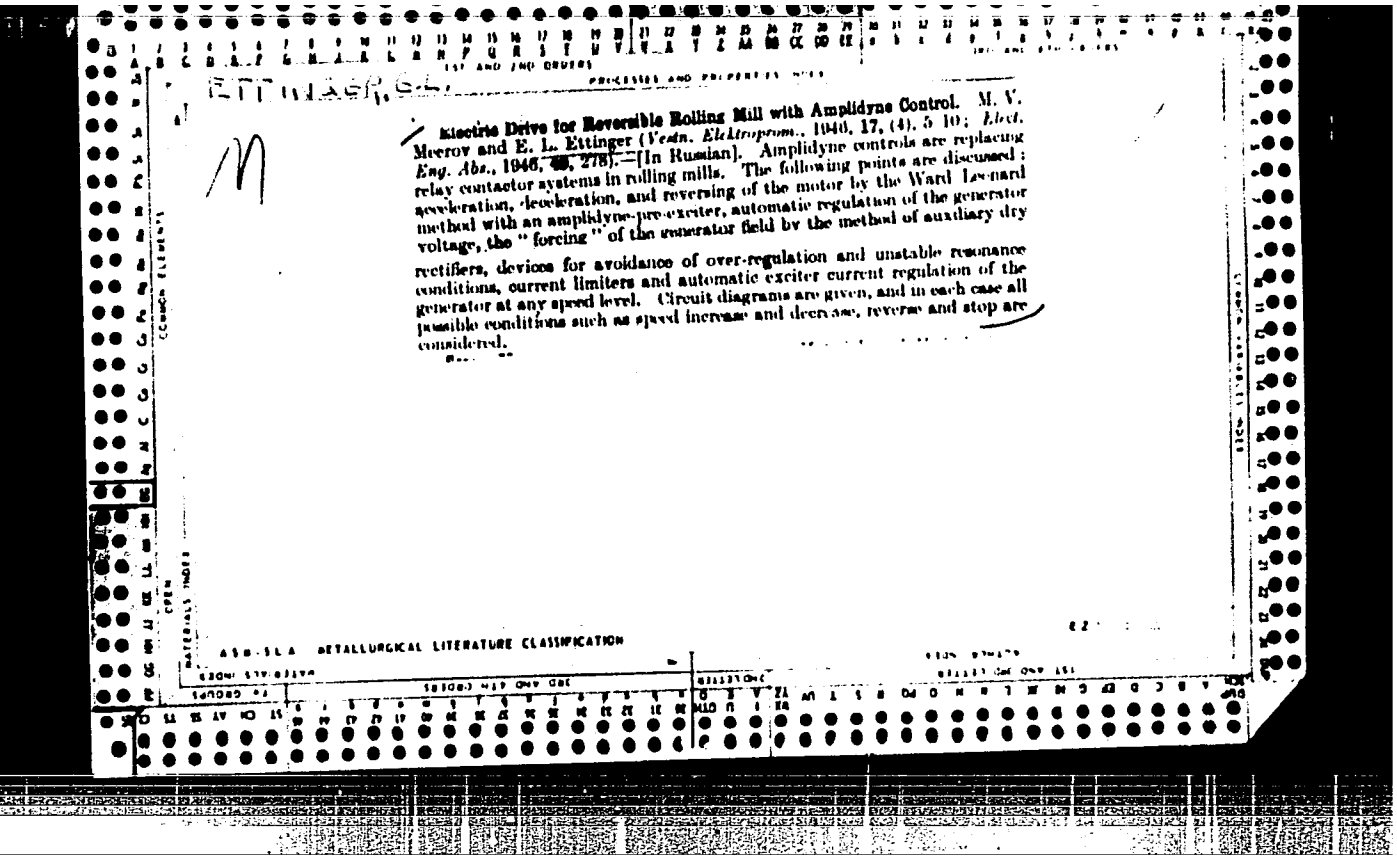

ETTINGER, E.L.

Electric Drive for Reversible Rolling Mill with Amplidyne Control. M. V. Meerov and E. L. Ettinger (*Vestn. Elektroprom.*, 1940, 17, (4), 5–10; *Elect. Eng. Abs.*, 1940, 63, 278).—[In Russian]. Amplidyne controls are replacing relay contactor systems in rolling mills. The following points are discussed: acceleration, deceleration, and reversing of the motor by the Ward Leonard method with an amplidyne-pre-exciter, automatic regulation of the generator voltage, the "forcing" of the generator field by the method of auxiliary dry rectifiers, devices for avoidance of over-regulation and unstable resonance conditions, current limiters and automatic exciter current regulation of the generator at any speed level. Circuit diagrams are given, and in each case all possible conditions such as speed increase and decrease, reverse and stop are considered.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PA/7T39

ETTINGER, YE. L.

USSR/Electricity Jan 1948
Generators, Amplidyne
Amplifiers, Power

"Amplification Coefficients of Amplidynes in Electric Drive Regulation Systems," Ye. L. Ettinger, Candidate Tech Sci, All-Union Elec Engin Inst imeni V. I. Lenin, 4½ pp

"Vest Elektro-Prom" No 1

Discusses the question of the amplification coefficient of amplidynes. DC generator has two types of coefficients of amplification: coefficient of power amplification, and coefficient of voltage amplification. Comes to several solutions for automatic electric drive systems with amplitude regulation.

47T39

ETTINGER, Ye. L.

USSR/Electronics Jun 48
Regulators, Voltage
Drives, Electric

"Static Calculations of the Regulation Accuracy of Electrical Drives With Electromechanical Boosters," Ye. L. Ettinger, Cand Tech Sci, All-Union Elec Tech Inst imeni V. I. Lenin, Moscow, 6 pp

"Vest Elektro-Prom" No 6 - [illegible]-13-19

Treats subject under following headings: (1) basic elements of a system controlled by an electric drive; (2) series connection of the circuits; (3) resistance and potentiometer circuits; (4) regulation

12/49T25

PA 12/49T25

USSR/Electronics (Contd) Jun 48

accuracy and amplification factor of the system; (5) effect of temperature on armature windings; and (6) alteration of standard voltage.

12/49T25

ETTINGER, Ye. L.

"The Use of Controlled Mercury-Arc Revtifiers for Electric Drives," reported in the article "First All-Union Scientific and Technical Session on Mercury-Arc Rectifiers," Elektrichestvo, No. 11, 1949.

Candidate of Technical Sciences, of the "Elektroprivod" Trust.

Abstract W-9395, 10 Apr 1950

ETTINGER, YE. L.

USSR/Electricity - Regulation
Control Systems

Nov 50

"Method of Relative Units Applied to Calculating Precision of Regulation of Static Systems in a Steady State," Ye. L. Ettinger, Cand Tech Sci, Elektroprivod Trust

"Elektrichestvo" No 11, pp 57-63

Introduces concept of amplification factor for relative changes and examines many problems relating to precision in regulation. Submitted 19 Nov 49.

171T49

ETTINGER, E. L.

B. T. R.
V. 3 No. 3
Mar. 1954
Mining - Engineering

3969* The Connection Between the Structure of Coal Layers and the Phenomenon of Sudden Extrusion of Gasses and Rock. (Russian.) I. L. Ettinger, L. E. Shterenberg, and V. S. Yablokov. *Ugol*, 1953, no. 11, p. 28-31.

Discusses necessity of recognizing structural changes in certain layers and their importance in rock extrusions. Diagrams, tables, 4 ref.

(3) 7 refs

ETTINGER, Ye. L

AID P - 2000

Subject : USSR/Electricity

Card 1/2 Pub. 27 - 4/31

Authors : Ettinger, Ye. L., Kand. of Tech. Sci., Chalyy, G. V., Eng., and Glukh, Ye. M., Eng.

Title : Experimental installation of an electronic excitation system at a high capacity hydroelectric power station

Periodical : Elektrichestro, 4, 16-23, Ap 1955

Abstract : The authors describe a system with mercury rectifiers used for the excitation of a 55,000-kw water-wheel generator at one of the Mosenergo hydroelectric power stations. Similar installations were tested for a 3,000-kw turbogenerator at a Mosenergo steam electric power station, and for a 30,000-kva synchronous condenser. The tests confirmed the high qualities of field control with metal tank mercury arc rectifiers, namely: a) the high rate of a-c voltage response; b) the rapid exciter field extinction (in less than 1 sec) without breaking the winding circuit;

Elektrichestro, 4, 16-23, Ap 1955 AID P - 2000

Card 2/2 Pub. 27 - 4/31

c) an increase of the "rigidity" (continuity of response) of the regulation system, and d) the high dependability, simplicity and ease of operation of the system. Fifteen photographs and diagrams.

Institution: Trust "ELEKTROPRIVOD" and plant "URALELEKTROAPPARAT".

Submitted : N 26, 1954

AID P - 3261

Subject : USSR/Electricity

Card 1/2 Pub. 27 - 16/25

Authors : Ettinger, Ye. L., Kand. Tech. Sci., and Yu. A. Shmayn, Eng.

Title : Using current transformers for measurements in networks with rectifiers

Periodical : Elektrichestvo, 9, 71-73, S 1955

Abstract : The authors demonstrate that under certain conditions secondary currents of current transformers may considerably differ from primary ones due to the saturation of the core. They give some examples of tests with transformers with cores made of a permalloy type of material and cores of steel. They found that the permalloy type transformers (the MTT-1 and UTT-5 types) are not suited for measurements in rectifier circuits at 50 cycles, while those with steel cores (of TKF-20/5 type) give relatively small errors. Three diagrams.

AID P - 3261

Elektrichestvo, 9, 71-73, S 1955

Card 2/2 Pub. 27 - 16/25

Institution : "Elektroprivod" and the Central Scientific Research Electrical Engineering Laboratory of the Ministry of Electric Power Stations.

Submitted : Mr 14, 1955

ETTINGER, Ye.L., kandidat tekhnicheskikh nauk; REYNGOL'D, Yu.R., inzhener.

Experimental investigation of the dynamic characteristics of the rotary amplifier and the calculation of its parameters. Elektrichestvo no.3:13-23 Mr '56. (MLRA 9:6)

1.TsKB "Elektroprivod" Ministerstvo elektropromyshlennosti.
(Rotating amplifiers)

ETTINGER, Ya.L., kandidat tekhnicheskikh nauk; GUTKIN, B.M., kandidat tekhnicheskikh nauk; Borodavchenko, P.M., inzhener.

Present-day systems of rectifier drives. Elektrichestvo no.9: 32-38 S '56. (MLRA 9:11)

1.TSentral'noye konstruktorskoye byuro "Elektroprivod" Ministerstva elektropromyshlennosti.
(Mercury-arc rectifiers)

GLUKH, Ye.M.; CHALYY, G.V.; ETTINGER, Ye.L.

Ionic system for the excitation of hydrogenerators. Elektrosila no.14:35-40 '56. (MIRA 12:12)
(Electric generators)

GUTKIN, B.M., kandidat tekhnicheskikh nauk; ETTINGER, Ye.L., kandidat tekhnicheskikh nauk.

Peak choke for regulating electronic instruments. Vest.elektroprom. 27 no.1:26-32 Ja '56. (MIRA 9:6)
(Electronic apparatus and appliances)(Electric controllers)

CHALYY, G.V., inzhener; ETTINGER, Ye.L., kandidat tekhnicheskikh nauk; GLUKH, Ye.M., inzhener.

Electronic exciter for generators at the Kuybyshev Hydroelectric Power Station. Vest. elektroprom.27 no.2:40-50 F '56. (MLRA 9:7)

1.TSentral'noye konstruktorskoye byuro "Elektroprivod" Ministerstva elektropromyshlennosti.
(Electric generators)

621.34 : 621.37

4084. MODERN CIRCUITS OF RECTIFIER-SUPPLIED ELECTRIC DRIVES.

E. L. Ettinger, B. M. Gotkin and P. M. Borodavchenko

Elektrichestvo, 1957, No. 1, 60-6. In Russian.

Circuits for integrating (summing), forming and amplifying signals are considered and industrial and experimental rectifier controlled drives using these circuits are described. The amplifiers are of the electronic or magnetic type. In the first model the use of an electronic amplifier is rendered possible by a special static phase-regulator. It seems possible that with this phase-regulator germanium triodes may also be used as amplifiers. The integrating (summing) magnetic amplifier and its operation in combination with the phase-regulator are considered with reference to the matching of their characteristics. An incorrect operation of the control system may be obviated by one of two methods, viz. by using a summing magnetic amplifier of a type with oblique characteristic in the range of negative controlling voltages (currents), or by "electric" instead of "magnetic" summing of the controlling and regulating signals by inserting a semiconductor-type rectifier into the control winding, which is thereby biased. A two-stage half-wave electronic amplifier with feedback stabilization is then described. Further experimental types discussed are two-stage magnetic amplifiers to operate with two electronic converters, and a bridge type magnetic amplifier circuit. Applications described are to rotary machines (printing presses) and lift drives.

B. F. Kraus

Eitinger, Ye.L.

8(2); 28(1) PHASE I BOOK EXPLOITATION SOV/1433

Soveshchaniye po avtomatizirovannomu elektroprivodu peremennogo toka, Moscow, 1955

Trudy...(Transactions of the Conference on Automated A-C Electric Drives) Moscow, Izd-vo AN SSSR, 1958. 398 p. 4,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki.

Resp. Eds: V.S. Kulebakin, Academician, and M.G. Chilikin, Doctor of Technical Sciences, Professor; Ed. of Publishing House: D.M. Ioffe; Tech. Ed.: I.F. Kuz'min.

COVERAGE: The conference was organized on the initiative of the Institute of Automation and Telemechanics of the Academy of Sciences, USSR, and the Moscow Power Engineering Institute and had as its aim the planning of the most progressive ways of developing automatic control of electric drive. The first conference on the subject of automated electric drive took place more than ten years before the present one and was concerned with d-c electric drives. The results of this conference were found to be most valuable in the task of rebuilding postwar Soviet industry and in furthering industrial development. Present technical development of Soviet industry demands high speeds, simplicity of construction, reliability of operation, control appears to be the most promising type with frequency converters. For wide application of this drive in the Soviet economy there is a need of developing new types of frequency converters. Some interesting studies were made in this connection at the Institute of Automation and Telemechanics of the USSR Academy of Sciences and its Leningrad branch, at the Moscow Power Engineering Institute, the Central Design Bureau of the Elektroprivod Plant, the State Design Institute of the Ministry of Construction of the RSFSR, and in other design organizations. These studies were discussed at the present conference. The transactions contain material concerning the theory and design of reactor, pulse, and frequency methods of controlling a-c electric drives.

Candidate of Technical Sciences I.V. Utkin and Engineer V.A. Kokoreva participated in the preparation of this collection of papers. The volume was reviewed by Professor Ya. V. Mitusev, Doctor of Technical Sciences. Some of the papers include a bibliography.

TABLE OF CONTENTS:

SOV/110-59-7-10/19

AUTHORS: Ye.L. Ettinger, G.V. Chalyy, Ye.M. Glukh, Ya.N. Shtrafun, P.M. Ipatov, (Candidates of Technical Sciences), and Yu.A. Shmayn, (Engineer).

TITLE: Valve Excitation of Synchronous Alternators and Compensators (Ventil'noye vozbuzhdeniye sinkhronnykh generatorov i kompensatorov)

PERIODICAL: Vestnik elektropromyshlennosti,1959,Nr 7,pp 41-48 (USSR)

ABSTRACT: Discharge-valve exciters provide a cheap means of improving the stability of supply from power stations. Grid-controlled rectifiers can easily give four- or five-fold field-forcing with very high rates of voltage rise and low control power. This is particularly useful in hydro-electric power stations. By using regulators that respond to the power and to its rate of change in combination with high-speed excitation the stability of hydro-alternators can be greatly increased without having greatly to reduce the machine reactance or increase its flywheel effect. High-speed excitation is less essential in turbo-generators working on shorter transmission lines but machine exciters are already becoming unsatisfactory, because with unit outputs of 200 - 300 MW the field

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current can be up to 3000 A at about 500 V. It is difficult to design shaft-driven exciters of this rating with double forcing. On the other hand, separately-driven exciters are much less reliable, so that rectifier excitation is to be preferred. Rectifier exciters also offer advantages for synchronous condensers. With independent excitation circuits as shown in Fig 1a the rectifier is supplied from a separate alternator usually mounted on the main alternator shaft. The application of this system to a hydro-alternator is shown in the left-hand side of the composite drawing in Fig 2; the right-hand side shows an alternator with an ordinary machine exciter. The alternator field current is regulated by grid control of the rectifier. Self-excitation circuits for alternators are shown in Figs 1b, v and g. The first is analogous to shunt excitation of a d.c. generator: the other two correspond to compound excitation of a d.c. generator. These circuits use voltage-boosting transformers, their primaries connected in series with the generator output. The transformers have large air-gaps so that the secondary voltage is proportional to the

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primary current. The voltages on the anodes of the rectifiers are proportional to the geometrical sum of the voltages on the generator busbars and on the secondary windings of the booster transformers. The main generator field is mainly regulated by grid control. A fourth circuit, shown in Fig 1d, has been developed to reduce the number of rotating machines. It is an independent excitation circuit with self-excitation of the auxiliary generator. This circuit has the advantage that the auxiliary generator has no exciter and so is smaller, but starting conditions are somewhat more complicated. When parallel self-excitation is used, the voltage applied to the rectifiers falls on the occurrence of the short-circuit. However, when high-speed protection and circuit-breakers are used, field-forcing may be delayed until the short-circuit is cleared without impairing in practice the dynamic stability of the generator. For such cases, the circuit of Fig 1b may be used, but special steps must be taken to provide auxiliary supply to the rectifiers during short-circuits. This system is likely to be used for synchronous

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condensers and for alternators operating on relatively short transmission lines. For the highest dynamic stability making the fullest use of field-forcing, the shunt circuits of Figs 1v and g should be used. When a short-circuit occurs the booster transformers give additional voltage which ensures the necessary field-forcing. The costs of the different systems are briefly compared. In all the above-mentioned circuits, the valves may be connected in different ways. If the field-forcing factor is not greater than $2\frac{1}{2}$ it will probably be advisable to use ordinary rectifier circuits, as shown in Figs 3a, b and v. In the circuits of Figs 3g and d, valves connected to tappings from part of the secondary winding of the rectifier transformer provide generator excitation under normal conditions; and valves supplied by the whole secondary winding of the rectifier transformer provide field-forcing. Circuits with two series-connected groups of valves are shown in Fig 3z. Here the valves are divided into a cathode group and an anode group. If these are suitably controlled it may be arranged that, under normal conditions of operation, the anode group of

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valves is almost fully open and the cathode group operates under invertor conditions so that its rectified voltage is negative. The overall rectified voltage is the algebraic sum of the voltages of the anode and cathode groups. During field-forcing both groups are fully open and during field suppression both groups operate under invertor conditions. The different methods of connecting the valves affect the output of the supply transformer or auxiliary generator, the r.m.s. and peak values of the valve current and the back voltage on the valve. The graphs in Figs 4 and 5 show curves of the relationship between the output of the transformer or auxiliary generator and of the back voltage on the valve under normal conditions as a function of the field-forcing factor for various valve supply circuits. With high forcing-factors the circuit with two groups of valves connected in parallel or series is best. Considerations governing the choice of the circuit are briefly described. Rectifier grid control circuits are then described. Grid-control phase regulators may be of the induction or static types. The latter comprise a bridge, two arms of which

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are formed by transformer windings, the third by a constant resistance and the fourth by a variable inductance which is a saturating choke. The phase angle is varied by altering the auxiliary excitation of the choke, which may be done directly by the automatic voltage controller of the generator. Rectifier exciters require very little control power and are practically without inertia and so the automatic voltage controllers may be relatively simple. Test results with rectifier excitation are then described. Extensive tests were made on a 55 MW hydro-alternator using various circuits for considerable periods, and good agreement was found between test results and design figures. The rate of rise of field voltage during forcing is of the order of 75 - 80 kV/sec, and the maximum voltage is reached in less than a single cycle of the power frequency, as will be seen from the oscillogram drawn in Fig 6. The oscillogram in Fig 7 relates to field-forcing and suppression on a hydro-alternator of the Volga power station: the high operating speed will be noticed. Field suppression by operating the rectifier under

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invertor conditions ensures rapid reduction in the generator field without any switching in the rotor circuit; an oscillogram for this case is shown in Fig 8. Those in Figs 9 and 10 relate to sudden loading and unloading. Developments in the manufacture of semiconductor rectifiers may lead to their use for machine excitation particularly if a reliable source of alternating current is available. Three-phase inductor-type high-frequency generators (400 - 500 c/sec) for induction heating or machines with permanent magnet rotors may be used as such sources of reliable supply. Fig 11 shows the schematic circuit diagram of an experimental installation for exciting a 30 MW turbo-alternator. The high-frequency alternator has two field windings on the stator; the main winding is self-excited. The auxiliary winding is supplied independently from an auxiliary high-frequency exciter with permanent magnet rotor and is intended for initial excitation, adjustment of the system and additional excitation during forcing. The operation of the circuit is described. Prolonged tests on the equipment revealed its good static and

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dynamic characteristics. Tests with short-circuits on the generator terminals were made at reduced voltage to determine the compounding effect of the free current in the rotor. The rate of rise of voltage on the rotor slip-rings was 8 times the initial value per second. The development of high-frequency generators for use with semi-conductor rectifier systems has resulted in designs which may be used as auxiliary generators in systems with valve rectifiers. The largest hydro-alternators are now being designed with valve excitation. Valve and semi-conductor rectifier systems are being developed for the excitation of turbo-alternators of 200 and 300 MW. New synchronous condensers of 75 MVA are provided with valve rectifier excitation. Further developments are expected to include the use of air-cooled pumpless rectifiers, improved grid control circuits and new automatic field regulators with amplidynes and transistors replacing valves and thyratrons. Further experience with rectifier excitation is still required but it can already be concluded that the use of high-speed excitation systems

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on synchronous alternators and condensers operating on long transmission lines increases the power throughput by approximately 10%. The size and weight of hydro-alternators may be reduced when these exciters are used, so cutting the cost by 20%.
There are 11 figures and 8 Soviet references.

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ETTINGER, YE.L.

Vsesoyuznoye ob"yedinennoye soveshchaniye po avtomatizatsii proizvodstvennykh protsessov v mashinostroyenii i avtomatizirovannomu elektroprivodu v promyshlennosti. 3d, Moscow, 1959

Elektroprivod i avtomatizatsiya promyshlennykh ustanovok; trudy soveshchaniya (Electric Drive and Automation in Industrial Systems; Transactions of the Conference) Moscow, Gosenergoizdat, 1960. 470 p. 11,000 copies printed.

General Eds.: I.I. Petrov, A.A. Sirotin, and M.G. Chilikin; Eds.: I.I. Sud, and R.F. Bilayev; Tech. Eds.: K.P. Voronin, and G.Ye. Larionov.

PURPOSE: The collection of reports is intended for the scientific and technical personnel of scientific research institutes, plants and schools of higher education.

COVERAGE: The book is a collection of reports submitted by scientific workers at plants, scientific institutes and schools of higher education at the third Joint All-Union Conference on the Automation of Industrial Processes in Machine Building and Automated Electric Drives in Industry held in Moscow on May 12-16, 1959. The Conference was called by the Academy of Sciences USSR, the Gosplan SSSR (State Planning Commission USSR), the GNTK SSSR, the Gosudarstvennyy Komitet po avtomatizatsii i mashinostroyeniyu (State Committee on Automation and Machine Building) and the Natsional'nyy Komitet SSSR po avtomaticheskomu upravleniyu (USSR National Committee on Automatic Controls) and prepared by the Nauchno-tekhnicheskiy komitet po avtomatizirovannomu elektroprivodu (Scientific and Technical Committee on Automated Electric Drives), the MEI (Moscow Institute of Energetics), the VNIIEM, the IAT (Institute of Automation and Telemechanics) of the Academy of Sciences USSR, and the Komissiya po tekhnologii mashinostroyeniya Instituta mashinovedeniya AN SSSR (Commission on the Technology of Machine Building of the Institute of Science of Machines of the Academy of Sciences USSR). It was the purpose of the Editorial Board to arrange the reports in a way which would ensure a relatively systematic presentation of theoretical and practical problems relating to electric drives and automatic controls of industrial mechanisms used in various branches of industry. Basic problems of automated electric drive and their solution are outlined. The book also contains articles on electric machinery and means of automation. Considerable attention is paid to noncontact automatic control systems, including systems with semiconductor devices and magnetic amplifiers, and to computers intended both for the analysis and the synthesis of linear and nonlinear automatic regulation and control systems. Reports already published in journals or official publications have been considerably abbreviated; those which have appeared in volume V of NII EP transactions or in the journal "Elektrichestvo" are marked with an asterisk. No personalities are mentioned. References accompany some of the papers.

PART I. GENERAL PROBLEMS CONCERNING THE THEORY AND PRACTICE OF ELECTRIC DRIVE AND AUTOMATION OF CONTROL

S/194/61/000/007/050/079
D201/D305

AUTHORS: Ettinger, Ye.L. and Ivanova, M.I.

TITLE: Equalizing currents in reversible gas-filled converters

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1961, 24, abstract 7 E146 (Vestn. elektroprom-sti., 1961, no. 1, 57-59)

TEXT: The equalizing current УТ (UT) loads both the rectifier and transformer windings resulting in additional losses. They are limited by chokes, serving also in certain cases as filters for the rectified current ripple. Methods are given for evaluating the equalizing currents and choosing the parameters of chokes for limiting them. The expression for the effective value of the equalizing current T_{eff} is given as $T_{eff} = V_o k/\omega L$ where V_o - the phase voltage of the transformer, ω - angular frequency, L - inductance, k - a factor determined from the curves produced and depending on the reg-

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ulation angle of the rectifying system for different converter circuits. The circuit inductance required for limiting the equalizing current is determined from the given allowable value of current and from k. Two variants of choke design are possible: 1) When the chokes do not saturate at the max. working currents and 2) When they are not saturated by the equalizing current, but are saturated by the working current. Variants of circuits are given of reversible converters. [Abstracter's note: Complete translation]

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ETTINGER, Ye.L., kand.tekhn.nauk; IVANOVA, M.I.

Equalizing currents in reversive ionic converters. Vest. elektroprom. 32 no.1:57-59 Ja '61. (MIRA 14:3)
(Electric current converters)

GLUKH, Ye.M., kand.tekhn.nauk; ETTINGER, Ye.L., kand.tekhn.nauk;
CHALYY, G.V., kand.tekhn.nauk; SHMAYN, Yu.A., inzh.

Testing of the ionic self-excitation system of a large hydrogenerator. Vest. elektroprom. 32 no.11:4-9 N '61. (MIRA 14:11)
(Turbogenerators)

ETTINGER, Ye.L., kand.tekhn.nauk

Features of the development of large ionic drives.
Vest. elektroprom. 33 no.10:1-10 O '62. (MIRA 15:9)
(Electric driving)
(Electric current rectifiers)

GLUKH, Ye.M., kand.tekhn.nauk; ZEMLYANOY, Yu.M., inzh.;
ETTINGER, Ye.L., kand.tekhn.nauk

Ionic exciters in the hydrogenerators of the Bratsk Hydroelectric Power Station. Vest. elektroprom. 33 no.10:15-22 O '62. (MIRA 15:9)
(Bratsk hydroelectric power station)
(Turbogenerators)

ETTINGER, Ye.L., kand.tekhn.nauk

An electronic drive with a collectorless motor. Elektrichestvo no.2:42-50 F '63. (MIRA 16:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektromekhaniki.
(Electric motors)

ETTINGER, Ye.L., kand.tekhn.nauk; GLUKH, Ye.M., kand.tekhn.nauk; GOL'DIN, R.G., inzh.; TITOV, V.V., kand.tekhn.nauk; NEYMAN, Z.B., inzh.

Concerning L.V.Rosman's article. Vest. elektroprom. 34 no.1: 62-64 Ja '63. (MIRA 16:1)
(Electric generators) (Rosman, L.V.)

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ACCESSION NR: AP5010885 UR/0286/65/000/007/0064/0065

AUTHORS: Ettinger, Ye. L.; Bernshteyn, I. Ya.; Anikina, K. V.

TITLE: Three-phase rectifier frequency converter. Class 21, No. 169663

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 7, 1965, 64-65

TOPIC TAGS: frequency converter

ABSTRACT: This Author Certificate presents a three-phase rectifier frequency converter with a supply transformer, limiting reactors in the internal circuit of each phase, ripple filters at the output, and a control system. The control system varies the rectifier opening angles according to a prescribed law and maintains a constant phase shift of 120 electrical degrees between the fundamental harmonics of the secondary voltage of all three phases. To increase the converter power, to decrease the weight and size of the ripple filters, to better utilize the supply transformer, and to simplify the control system, the power rectifiers of each phase of the converter are connected in an antiparallel bridge circuit when all the bridges are supplied from a single common transformer winding (see Fig. 1 on the Enclosure). To reduce the total installed capacity of the limiting reactors, in the alternate design the supply transformer has two

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ACCESSION NR: AP5010885

identical secondary windings, each of which is connected to half of the converter bridges forming half the load current of one sign. Orig. art. has. 1 diagram.

ASSOCIATION: none

SUBMITTED: 24Jul63 ENCL: 01 SUB CODE: EC

NO REF SOV: 000 OTHER: 000

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